



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

5

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,686	08/05/2003	Pier Carlo Boffelli	22648	7566
535	7590	09/21/2004	EXAMINER	
THE FIRM OF KARL F ROSS 5676 RIVERDALE AVENUE PO BOX 900 RIVERDALE (BRONX), NY 10471-0900			NGUYEN, NINH H	
			ART UNIT	PAPER NUMBER
			3745	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/634,686

Applicant(s)

BOFFELLI, PIER CARLO

Examiner

Ninh H. Nguyen

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-14,16 and 17 is/are rejected.
- 7) ☒ Claim(s) 3 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/05/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The title of the invention is too long. The following title is suggested: --Engine Cooling Fan with Electromagnetic Clutch--.

Claim Objections

1. Claim 4 is objected to because of the following informalities: on line 4, "device" should be changed to --means-- to be consistent with claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5, 6, 8, and 9-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, there is a lack of antecedent basis for the limitation "said electromagnet" on line 2 of the claim.

In claim 6, there is a lack of antecedent basis for the limitations "the armature" and "the rotor" and "said magnet" as recited on lines 3-5 of the claim. Claim 8 is indefinite as being dependent on claim 6.

Art Unit: 3745

In claim 9, there is also a lack of antecedent basis for the limitation "said support of the fan" as recited on line 2 of the claim. Claims 10-14 are indefinite as being dependent on claim 9.

Note: claims 5, 6 and 9 should be recited to be dependent on claim 4 to avoid indefiniteness.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Behr (GB 1,147,266).

Behr discloses an apparatus with directable blades for conveying air to radiators of motor vehicles, comprising a fan (Figs. 1, 4) having a plurality of blades 11 each radially mounted by means of its own coupling device (page 2, lines 24-33) on a central body 9 and able to be rotationally actuated about its longitudinal axis by means of actuating means 13, 15 depending on the quantity of air required for correct cooling of the fluid, characterized in that comprises means 6, 10 for engaging/disengaging the transmission of the rotational movement from the means generating the movement to the fan (automobile' engine shaft);

wherein the engaging/disengaging means comprise an electromagnetic clutch (claim 6);

wherein the fan is arranged after the engaging/disengaging means (Fig. 4); and

wherein the fan arranged ahead of the engaging/disengaging means (Fig. 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4, 9, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woods (3,924,585) in view of Behr.

Woods discloses an apparatus with directable blades for conveying air to radiators of motor vehicles, comprising a fan 19 (Figs. 1-3) having a plurality of blades attached to a hub 57; means 47, 67 or an electromagnetic clutch for engaging/disengaging the transmission of the rotational movement from the means generating the movement to the fan (automobile' engine shaft);

wherein the electromagnetic clutch comprises a fixed electromagnet 47, a rotor 27 integral with the means generating the rotational movement of the fan, an armature 67 integral with an element supporting the fan 57 and movable axially with respect to the support;

wherein the support of the fan is mounted on a support shaft with the arrangement of associated bearings in between;

wherein the support shaft is movable rotationally; and

wherein the fan is arranged ahead of the engaging disengaging means (Fig. 1).

However, Woods does not disclose the fan blades each radially mounted by means of its own coupling device on a central body and able to be rotationally actuated about its longitudinal

Art Unit: 3745

axis by means of actuating means depending on the quantity of air required for correct cooling of the fluid as claimed.

Behr teaches an engine cooling fan comprising a hub 9, a plurality blades each has its own coupling device mounted on the hub and are rotationally actuated about its longitudinal axis by actuating means in order to alter the quantity of air flow to satisfy cooling needs for the engine (page 1, lines 13-21).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the fan blade pitch of Woods variable for the purpose of altering the quantity of air flow to satisfy cooling needs for the engine as taught by Behr.

5. Claims 1, 2, 5, 6, and 8, as far as they are definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over Yew (4,397,380) in view of Behr.

Yew discloses an apparatus (Figs. 1, 2) with directable blades for conveying air to radiators of motor vehicles, comprising a fan (col. 1, lines 37-39) inherently having a plurality of blades attached to a hub; an electromagnetic clutch 10 for engaging/disengaging the transmission of the rotational movement from the means generating the movement to the fan (automobile' engine shaft);

wherein the resilient means 42 able to exert a pushing force in an axial direction against the armature 34 in order to keep it constantly coupled to the rotor 16 are associated with the electromagnet;

wherein the electromagnet is not normally energized (col. 2, lines 67-68);

Art Unit: 3745

However, Yew does not disclose the fan blades each radially mounted by means of its own coupling device on a central body and able to be rotationally actuated about its longitudinal axis by means of actuating means depending on the quantity of air required for correct cooling of the fluid as claimed.

Behr teaches an engine cooling fan comprising a hub 9, a plurality blades each has its own coupling device mounted on the hub and are rotationally actuated about its longitudinal axis by actuating means in order to alter the quantity of air flow to satisfy cooling needs for the engine (page 1, lines 13-21).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the fan blade pitch of Yew variable for the purpose of altering the quantity of air flow to satisfy cooling needs for the engine as taught by Behr.

6. Claims 1, 2, 7, and 8, as far as they are definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over Behr in view of Krug (3,899,061).

Behr discloses all the limitations except the there is no permanent magnets to keep the armature constantly coupled to the rotor as claimed.

Krug teaches a fail-safe electromagnetic clutch (Figs. 1-3) comprising a first part 12, a rotor 16, and electromagnetic coupling having a coil C, an armature ring 24, a bias spring 39, and permanent magnets 26; wherein the permanent magnets 26 constantly keep the first part 12 coupled to the second part 16; the parts 12 and 16 are disengaged when the electromagnetic coil C is energized (col. 3, lines 45-62).

Art Unit: 3745

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the fan of Behr with the electromagnetic clutch of Krug for the purpose of providing a fail safe electromagnetic clutched fan as taught by Krug.

Allowable Subject Matter

7. Claims 3 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

The prior art made of record but not relied upon is considered pertinent to applicant's disclosure and consists of 2 patents.

Nakagawa et al. (5,687,823) and Nelson et al. (6,109,871) are cited to show different electromagnetic clutches.

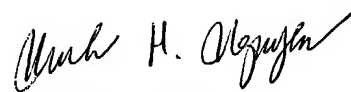
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (703) 305-0061. The examiner can be normally reached on Monday-Friday from 7:30 A.M. to 5:00 P.M.

Art Unit: 3745

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (703) 308-1044. The fax number for this group is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.



NINH H. NGUYEN
PRIMARY EXAMINER

Nhn
September 20, 2004